

AMENDMENTS TO THE SPECIFICATION

Please replace the title on page 1 with the following title:

“UTILITY POLE ERECTION ASSEMBLY”.

Please replace paragraph 2 on page 1 with the following amended paragraph:

Metal utility poles generally are tubular and may take any general tubular shape but are usually cylindrical or octagonal. They are usually fabricated in sections for efficiency in the fabrication process and ease of transportation. After the sections are fabricated, they are attached one to the other for a longer pole. Some such poles are joined ~~have been attached~~ at the utility pole fabricators and then the assembled poles transported to the utility for erection. However, this has the disadvantage of requiring the shipping of over-length utility poles ~~and of handling very heavy utility poles~~. Consequently, some utility poles are shipped in sections to the site, assembled and erected. For ease in assembly, the sections of a utility pole are tapered and the bottom ~~upper~~ sections are inserted into the upper ~~bottom~~ sections with sufficient force so that they do not come apart when being erected since if the bottom section dropped out when the pole is being pulled vertically it could result in injury to the personnel as well as damage. Accordingly, the sections must be pulled together with considerable force under standards that are set by the manufacturer to ensure they will not come apart.

Please replace paragraph 1 on page 2 with the following amended paragraph:

One prior art type of hydraulic cylinder has a stroke sufficiently large to pull the sections together with sufficient force for fastening. Other prior art hydraulic cylinders have shorter strokes.

However, the prior art arrangements utilizing relatively short stroke hydraulic cylinders use a heavy steel ~~ladder-type~~ ladder-type member to connect the hydraulic piston on one section to the bracket on the other. The sections are pulled together in increments and between increments, the steel ladders are manually adjusted to a new location on the bracket so that the sections can be pulled another increment.

Please replace paragraph 1 on page 5 with the following amended paragraph:

In the preferred embodiment, the operation of the hydraulic cylinder, tug arm and bracket are analogous to a ~~ratchet~~ ratchet mechanism with a plurality of ratchet pawls on the tug arm and single member rack. The pawls have a substantially saw tooth shape but could have any other workable cam shape or the rack member could contain the cam surface and the teeth of the tug arm have only straight surfaces. In other embodiments, the tug arm may only have one tooth and there may be a plurality of members on bracket in the member of a rack using one pawl. Similarly, a plurality of members such as in the case of a ladder configuration could be used instead of a single arm with teeth on it. Moreover, Moreover, the tug arm may be mounted to cam to the side of the utility pole section and be pulled back by a leaf spring instead of being cammed upwardly and falling by gravity. With a ladder-type mechanism the rungs may be made to have great tensile strength such as the case of reinforced fabric but to be light and easily moveable and the camming operation may be performed with the light rungs being moved or with the side members having the cam surfaces or cam follower surfaces.

Please replace the paragraph bridging pages 5 and 6 with the following amended paragraph:

In still another embodiment for assembling the sections, the tug arm may be a flexible member fastened at different lengths to the piston rod of the hydraulic cylinder but because it is a flexible member that change may be made easily, such as for example having a plurality of loops to be attached to the extended hydraulic cylinder piston so as to pull in tension the sections together to a retracted position of the hydraulic piston, where a different position on the flexible member is attached to the same detent on the piston arm. In this embodiment, one or more cord type apparatus may be used for ~~assembly~~ section assembling sections of a utility pole to be erected and [an] a separate type of apparatus may be dedicated for disassembly of utility poles.

Please replace the paragraph bridging pages 6 and 7 with the following amended paragraph:

The hydraulic ~~cylinder hoses~~ cylinder's valve may be connected at any time to a source of hydraulic power within the truck or connected to a separate source of hydraulic power. The cylinders are mounted to cylinder brackets and the brackets are mounted on opposite sides of the section, utilizing the nuts already welded on the sections by the fabricator. The tug brackets are fastened to the matching end of the other section and the tug arms may be lifted and carried for positioning to the hydraulic piston and on the tug bracket with a gudgeon. The hydraulic cylinder is then operated in a series of extension and retraction cycles, with each cycle being of sufficient length so that the cam surface of the tug arm lifts the tug arm then the tug arm drops with its catching surface on the corresponding catching surface of the tug bracket. A retraction cycle then incrementally pulls the sections together. After they are pulled together with sufficient force, the crane erects the entire pole in place in a manner known in the art for utility poles. The tug arm can

be reversed to disassemble sections if needed.

Please replace paragraph 11 on page 9 with the following amended paragraph:

FIG. 17 is an elevational view of a portion of the embodiment of FIGS. 15 AND and 16 referred to as a tug tube;

Please replace the paragraph bridging pages 10 and 11 with the following amended paragraph:

Using these steps, trucks may be loaded at the fabrication site of the tubular sections of the utility poles with tubular sections and brought to the site for erecting the utility poles ~~at which the site the poles.~~ The appropriate sections ~~may be~~ are placed at the site. Trucks, commonly called digger derrick trucks by utility pole installers, contain a derrick for lifting the sections and placing them end to end in a position and a source of hydraulic pressure so that the uppermost metal tapered columns may be inserted ~~into~~ over the top of the lower, larger diameter metal tapered columns and pulled together with sufficient pressure so that they do not come apart during erection or during use ~~come apart~~. The pulling may be done hydraulically so as to tighten them to the specified separation force. The sections are tapered for this purpose and contain openings formed by the fabricator to enable the sections to be pulled together conveniently.

Please replace the paragraph bridging pages 13 and 14 with the following amended paragraph:

In FIG. 3, there is shown a flow diagram illustrating the process of step 28 (FIG. 2) including the step 34 of extending with a hydraulic piston the tug arm, which has a series of teeth on it, until a cam surface on the forward end of the teeth on the tug arm engages the tug tube on the

tug bracket which is stationary and flat to cause the cam surface on the tooth to lift the tug arm over the flat side of the tug tube, and the step 36 of continuing the forward movement until the locking surface on the other (rearward) side of the tooth gets to the end of the tug tube which is also flat and again slides downwardly so that the locking surface of the tooth abuts the flat end of the tug tube. In this position, the equipment is ready to start a new cycle by retracting the piston and tug arm to pull the tug tube toward the piston as shown in step 26 of FIG. 2 and move the upper section of the utility pole one increment further into over the bottom section.

Please replace paragraph 1 on page 16 with the following amended paragraph:

In FIG. 7, there is illustrated equipment at a site 40 including a truck 42 having a bed sufficiently long to carry a plurality of sections such as 44A and 44B of utility poles. The sections of utility poles are tapered so that upper sections may fit within over bottom sections and pull together with a sufficiently tight press pressure so they will not fall apart. They are loaded into trucks at the fabricator and carried to the site and unloaded there. As illustrated in FIG. 8, a digger derrick truck 46 is also brought to the site 40. A source of hydraulic pressure for hydraulic pistons must also be brought to the site 40, but in the preferred embodiment, the conventional digger derrick truck is equipped with hydraulic hoses, a hydraulic pump and hydraulic fluid under sufficient pressure to pull sections of utility pole together. Thus the derrick can be used to position the sections with the ends to be pulled together adjacent adjacently. The bottom section which is of slightly larger smaller diameter at the overlap will rest upon an elevating member which may be a 2 x 4 lumber or the like and the other section is held by the derrick about its center of gravity so that it is easily balanced and may be started into over the stationary bottom section.